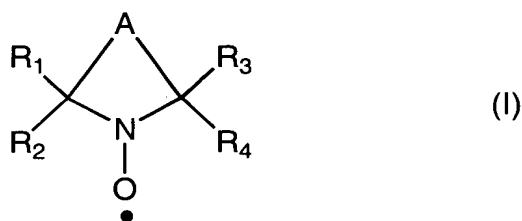
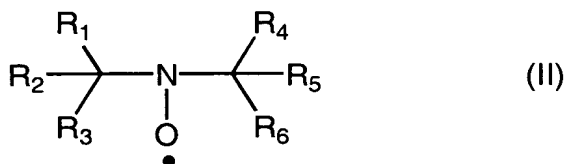


We Claim:

1. A finishing process for modifying cellulosic textiles comprising oxidizing the cellulosic textile via a nitroxide-mediated method whereby a controlled quantity of aldehyde and carboxyl functionality in a ratio of greater than about 5 0.5 based on the moles of each functionality are imparted to the textile.
2. The process of Claim 1 wherein the nitroxide-mediated method is conducted in a suitable medium with an oxidant in the presence of an effective amount of a nitroxyl radical mediator.
3. The process of Claim 2 wherein the suitable medium is water.
- 10 4. The modified cellulosic textile of Claim 2 wherein the nitroxyl radical mediator is a di-tertiary alkyl nitroxyl radical having a formula of
- NPD



or



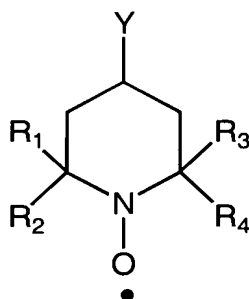
15

A is a chain having two or three atoms and each atom is selected from the group consisting of carbon, nitrogen, and oxygen; and each R₁-R₆ group represents the same or different alkyl groups.

- NPD 5. The process according to Claim 4 further comprising at least one co-catalyst.

6. The process of Claim 1 wherein the oxidation of the cellulosic textile results in an aldehyde content of from about 1 to about 20 mmole/100 g of cellulose contained in the cellulosic textile.
7. A process according to Claim 4 wherein the nitroxyl radical mediator is

5



wherein Y is H, OH, OR', NH-C(O)-R', OC(O)R', keto or acetal derivatives and R' is alkyl or aryl; and each of the R₁-R₄ groups represent the same or different alkyl groups of 1 to 18 carbon atoms.

10

8. The process of Claim 7 wherein the nitroxyl radical mediator is TEMPO or 4-acetamido TEMPO.
9. The process of claim 2 wherein the effective amount of the nitroxyl radical mediator is from about 0.001 to 20% by weight based on the weight of cellulose in the cellulosic textile.
10. The process according to claim 2 wherein the oxidant is an alkali or alkaline-earth metal hypohalite having an oxidizing power of up to 10.0 g active chlorine per 100 g of the cellulose.
11. The process of claim 10 wherein the oxidant is sodium hypochlorite or sodium hypobromite.
12. The process of Claim 4 further comprising oxidation of the cellulosic textile in the presence of an alkali or alkaline-earth metal halide.

15

20

13. The process of Claim 12 wherein the oxidant is from about 0.1 to about 5% sodium hypochlorite; the nitroxyl radical mediator is from about 0.001 to about 0.02% 4-acetamido TEMPO; and the alkali or alkaline-earth metal halide is from about 0.01 to about 2.5% sodium bromide and all percentages being based on the weight of the cellulose in the cellulosic textile.

14. The method of Claim 13 further comprising oxidation of the cellulosic textile in the presence of a buffering agent.

15. The method of Claim 14 wherein the buffering agent is sodium bicarbonate present in the amount of from about 0.1 to about 5% based on the weight of cellulose contained in the cellulosic textile.

16. The process of Claim 1 further comprising modification of the aldehyde functionality with a compound or polymer containing an aldehyde reactive functionality selected from the group consisting of hydroxyl, thiol, amino, amido and imido groups.

17. The process of Claim 1 further comprising modification of the carboxyl functionality with a compound containing an carboxyl reactive functionality selected from the group consisting of hydroxyl or amino groups.

18. The modified cellulosic textile finished by the process of Claim 1.

19. A modified cellulosic textile having a combination of inherent durable press properties, improved moisture content and improved wicking properties compared to a corresponding untreated cellulosic textile.

20. A garment prepared from the cellulosic textile of Claim 18.

21. A garment prepared from the cellulosic textile of Claim 19.